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GB 1225181 A

(58) Field of search

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(54) **Vaporising apparatus**

(57) A vaporising apparatus 1 for medical or cosmetic treatments comprises an evaporating vessel 2 with a heating coil therein and a steam chamber 4 from which a steam tube 6 extends to a vaporising nozzle 8. In use, vessel 2 is filled with water 3 and an active component is placed in carrier 11 to be infused with steam so as to release any volatile components therein. The steam mixture is then discharged through nozzle 8 towards the patient. A collecting vessel 12 catches drips from carrier 11 to prevent frothing in vessel 2. Further, since vessel 12 is heated by the generated steam it also releases any volatile components dissolved in the collected drips.

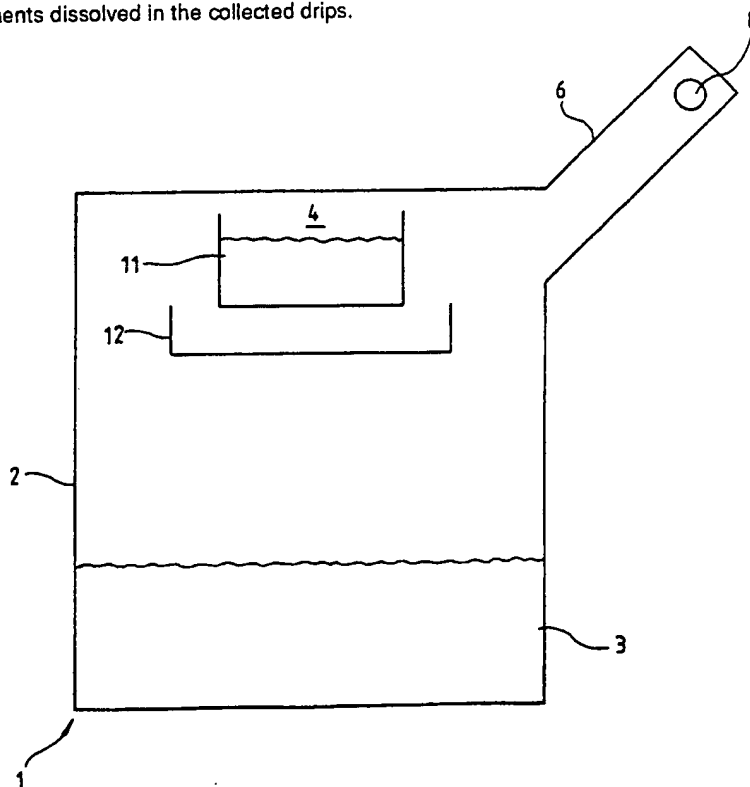


Fig. 1

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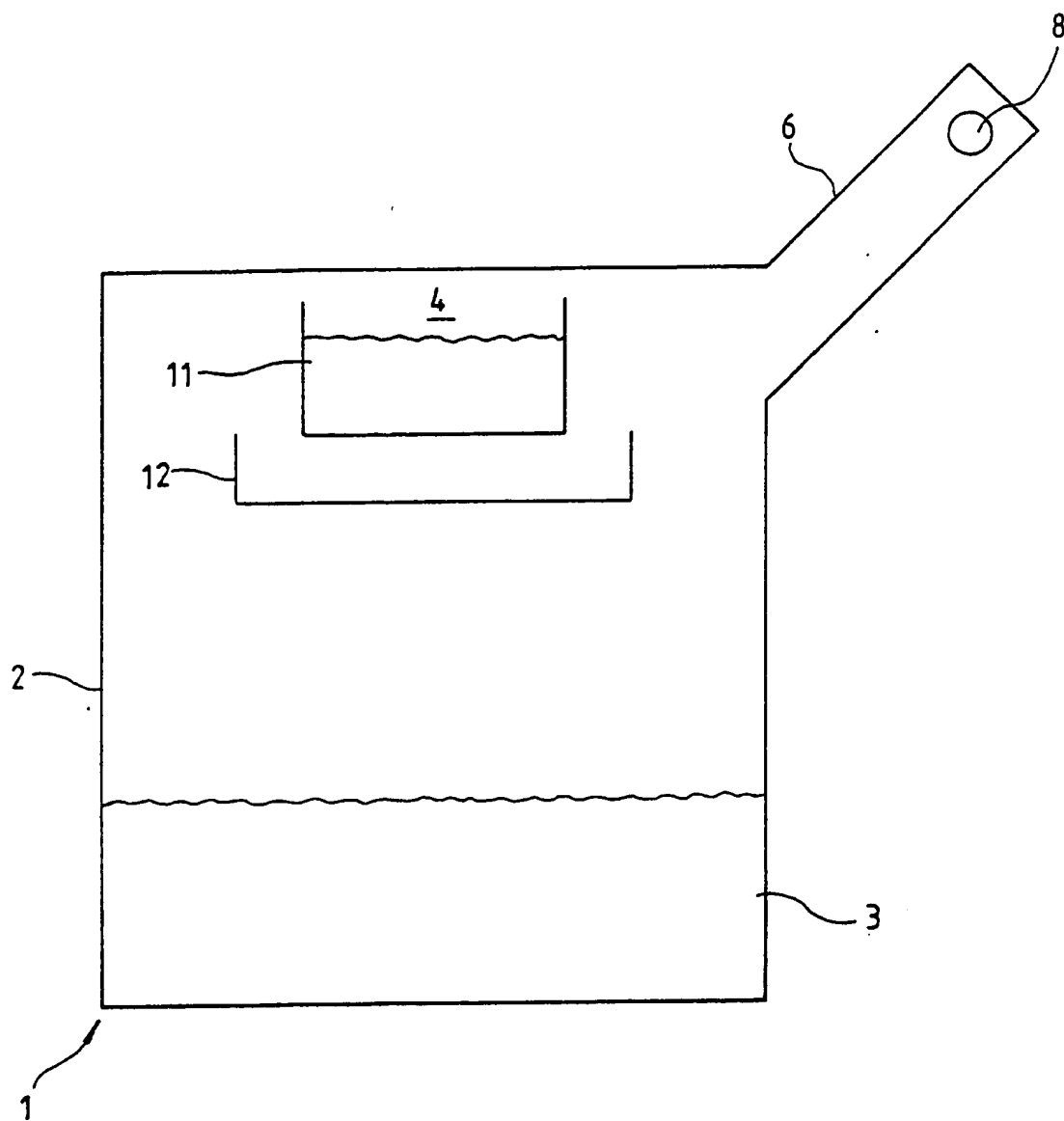


Fig. 1

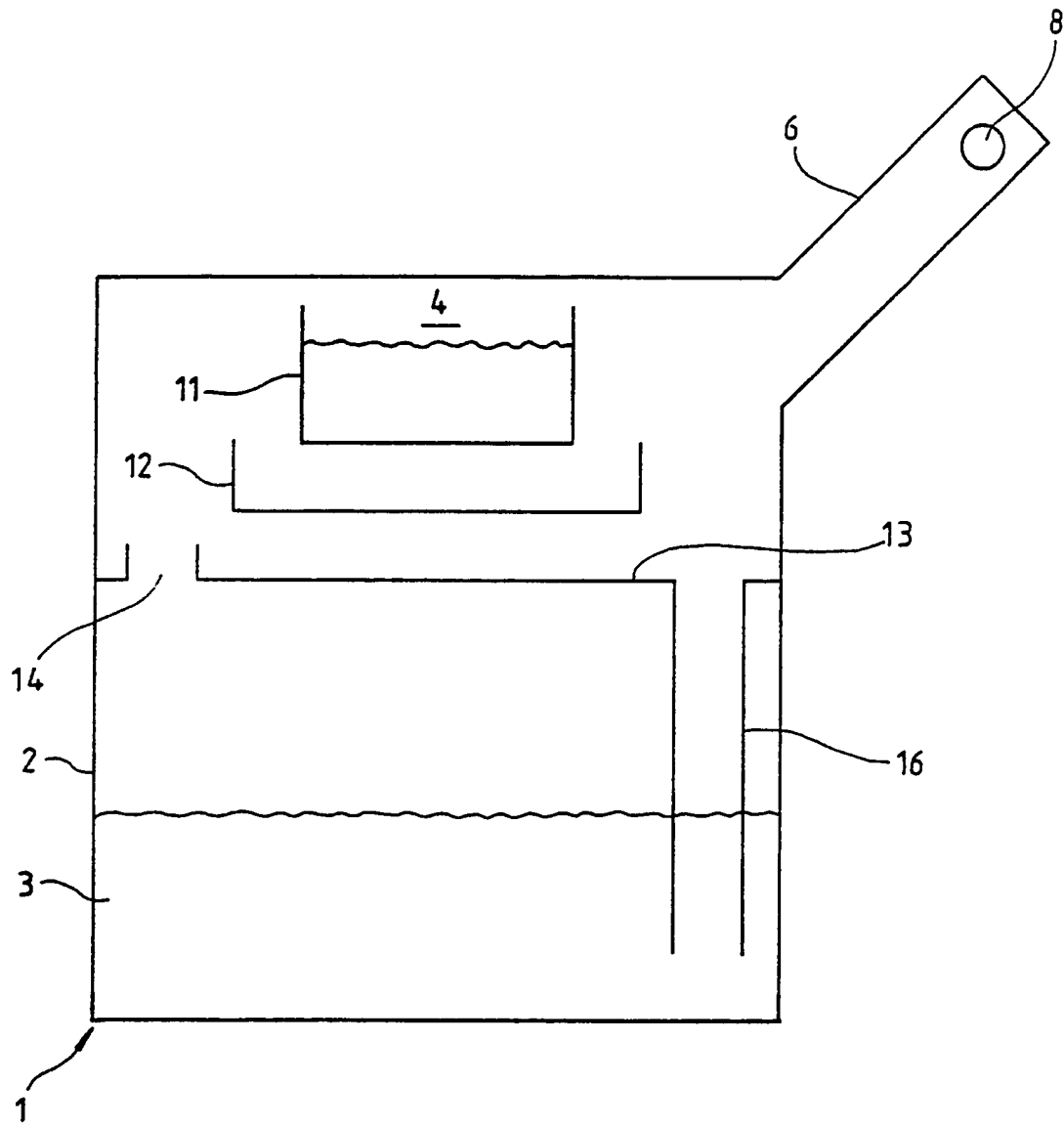


Fig. 2

Vaporizing apparatus for medical and cosmetic purposes.

The invention relates to a vaporizing apparatus for medical and cosmetic purposes, with an evaporating vessel and a steam outlet, as well as an active component carrier located between them.

Vaporizing apparatuses having the most varied constructions and designs are known. As relevant prior art reference is e.g. made to DE-OS 26 58 423, DE-OS 21 44 861 and Swiss Patent 659 186, whilst other apparatuses are in practical use. In such apparatuses water is evaporated in an evaporating vessel and by means of a steam outlet, such as a discharge nozzle, is directed onto a patient, e.g. the face of said patient, so as to produce there the desired cosmetic or medical effects. To an ever increasing extent use is made of active component additives, such as herb additives. For this purpose in the steam path between the evaporating vessel and the steam outlet are provided active component carriers, e.g. similar to tea infusers or flat sieves or strainers, on which the herbs are placed in loose or packed form. The steam flows through the herbs and releases therefrom active component, such as essential oils and the like. However, part of the steam condenses and drips into the water to be evaporated located in the evaporating vessel and accompanied by the entrainment of active components. This leads to extensive frothing in the boiling water, so that water droplets are entrained by the rising, outflowing steam, or steam passes out at a lower temperature, which has an increasing condensation tendency in the vicinity of the steam outlet, i.e. the discharge nozzle, so that droplets are shot onto the skin of the patient undergoing treatment, which are considered to be unpleasant and can lead to burns.

The problem of the invention, whilst maintaining the usefulness of the active components in such a vaporizing apparatus, is to so develop the latter that the aforementioned disadvantages are avoided and in particular the danger of hot water droplets being shot onto the patient's skin is prevented and also active components dissolved in the liquid phase can be recovered for further use.

According to the invention this problem is solved in that in the case of a vaporizing apparatus of the aforementioned type a collecting vessel is placed below the active component carrier.

As a result of the inventive construction of a vaporizing apparatus water condensing in the active component carrier flows back into the collecting vessel located below the latter, whilst taking up the active components. At least part of the steam flows round the collecting vessel. As a result of the high temperature of the steam chamber in which it is located, the liquid fraction of the dripping back water-active component mixture can reevaporate, without there being any risk of water droplets being shot out, as would occur in the case of active component-impregnated boiling water in the evaporating vessel and as occurs in the prior art. The water-active component mixture in the collecting vessel assumes a higher concentration and the active components can also pass into the solid, e.g. in the form of an active component bottom layer forming in the collecting vessel. As a result of the evaporation in the collecting vessel, it is rarely necessary to remove the latter for cleaning or renewal purposes, i.e. it has a long service life. Preferably the collecting vessel is constructed as a shallow dish. According to a further development the collecting vessel is held by means of radial struts on the upper edge of the evaporating vessel and in particular the collecting vessel is positioned centrally in the evaporating vessel.

If the collecting vessel is also removable, according to a preferred embodiment the said collecting vessel has a pouring spout.

After removing the collecting vessel the active components located therein can be dissolved in water and poured out via the pouring spout and can be reused, e.g. in connection with a cosmetic mask to be applied or for moistening cleansing cloths impregnated with the active component-containing liquid.

The invention is described in greater detail hereinafter relative to a non-limitative embodiment and the attached drawings, wherein show:

Fig. 1 a diagrammatic view of a first embodiment of an inventive vaporizing apparatus.

Fig. 2 a further development of an inventive vaporizing apparatus.

The vaporizing apparatus 1 according to the invention has an evaporating vessel 2, which is preferably in the form of an electrically heated vessel, in which either a heating coil is integrated in the bottom, or projects in the form of an immersion heater into the interior of the said vessel which is to be filled with water. Above the water is formed a steam chamber 4 from which a steam tube 6 leads to a vaporizing nozzle 8. For the cosmetic or medical treatment of the face of a patient by vapour or steam, water in the evaporating vessel 2 is evaporated and flows out via the steam chamber 4, steam tube 6 and vaporizing nozzle 8, which is positioned in front of the patient's face, so that the steam strikes the face.

In the steam chamber 4 is provided an active component carrier 11, which can be in the form of a sieve or strainer constituted by interconnected upper and lower parts. The strainer can be similar to a tea infuser, in which the active components, such as herbs or the like are received. The sieve or strainer can be held on the cover of the steam chamber 4, e.g. on a screw cap screwed into the latter and enabling the removal thereof. The active component carrier 11 can e.g. be in the form of a flat sieve or strainer, on which are placed herbs in loose form or packed into steam-permeable bags. It can be held by not shown radial struts on the encircling wall of the steam chamber. The steam evaporated from the evaporating vessel 2 penetrates the active component carrier 11 and dissolves the active component, such as ethereal components and passes the latter through the vaporizing tube 6 and discharge nozzle 8 to the person undergoing treatment. When steam flows through the active component carrier 11, part of the steam is condensed and drips downwards, whilst taking up active components. For collecting the condensation water containing the active components, a collecting vessel 12, which in the represented embodiment is in the form of a shallow dish, is placed

between the steam chamber 4 and the water to be evaporated located in the evaporating vessel 2 below the active component carrier 11. Thus, the active components drip into the collecting vessel 12 and are trapped therein. Due to the fact that hot steam always flows round the collecting vessel 12, the condensation water dripping into the latter evaporates, so that the active component concentration in the collecting vessel 12 is increased, provided that the complete evaporation of the water does not lead to the formation of a layer of solids, previously dissolved from the active component carrier 11. The collecting vessel 12 can be located on the walls of the active component carrier 11 held on the evaporating vessel 2 by radially extending struts. The collecting vessel 12 can be a shallow dish with a projecting edge or rim resting on a ring firmly connected to the struts for holding the collecting vessel 12, so that the latter can be removed. It can optionally be provided with a pouring spout. After removal the collected and completely or partly dried active components can be redissolved and used for other treatment purposes, as is in part desired with such active components.

In the construction according to fig. 2 between the water 3 and the steam chamber 4 is provided a partition 13, in which a steam outlet 14 is provided above the level of the water 3 and a condensation water return means 16 is provided below the steam tube 6 and extending up to the level of the water 3. Through said return means water condensing and dripping in the steam chamber 4, steam tube 6 and nozzle 8 flows back into the evaporating vessel 2.

CLAIMS

1. Vaporizing apparatus for medical and cosmetic purpose, comprising an evaporating vessel and a steam outlet, with an active component carrier located between them, and a collecting vessel placed below the active component carrier.
2. Apparatus according to claim 1, wherein the collecting vessel is constructed as a shallow dish.
3. Apparatus according to claim 1 or 2, wherein the collecting vessel is held on the upper edge of the evaporating vessel by means of radial struts.
4. Apparatus according to any one of claims 1 to 3, wherein the collecting vessel is positioned centrally in the evaporating vessel.
5. Apparatus according to any one of claims 1 to 4, wherein the collecting vessel has a pouring spout.
6. Apparatus according to any one of the claims 1 to 5, wherein the collecting vessel is removable.
7. Vaporising apparatus for medical and cosmetic purposes substantially as herein described with reference to the accompanying drawings.

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Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

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Relevant Technical fields

- (i) UK Cl (Edition K) A4V
- (ii) Int Cl (Edition 5) A61H

Search Examiner

N A FRANKLIN

Databases (see over)

- (i) UK Patent Office
- (ii) ONLINE DATABASE: WPI

Date of Search

7 APRIL 1992

Documents considered relevant following a search in respect of claims 1 TO 7

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
A	GB 1225181 (POPEIL) note page 8 line 44 - page 9 line 115	1

Category	Identity of document and relevant passages	Relevant to claim(s)

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

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